Region I

Guidance for Antidegradation Policy Implementation for High Quality Waters

March 10, 1987

INTRODUCTION

All States must have antidegradation policy language consistent with 40 CFR Section 131.12 in their water quality standards, and must develop appropriate implementation procedures. This document provides guidance to the States in developing their own antidegradation policy implementation procedures. EPA will review and approve these procedures to ensure consistent application of each state's antidegradation policy. This document also serves as the regional benchmark for evaluating antidegradation policy issues related to Regional reviews of activities which could 1ower water quality.

The Region recognizes that State resources are limited and recommends that States develop procedures so that the burden of proof is on the applicant.

FOCUS

Section 131.12 of the Water Quality standards regulation consists of three components which prohibit lowering water quality in some cases and require certain analyses to support lowering water quality in others.

Component 131.12(a)(l) requires that the level of water quality necessary to protect existing instream water uses shall be maintained and protected. Existing uses are defined as those uses actually attained in the water body on or after November 28, 1975, whether or not they are included in the water quality standards.

Component 131.12(a)(3) prohibits lowering water quality in high quality waters that are classified as Outstanding National Resource Waters (ONRWs). The Federal antidegradation policy specifies that the water quality of ONRWs shall be maintained and protected. Consequently, the lowering of water quality is prohibited in ONRW's except where limited activities will result in only temporary or short term insignificant changes in water quality. ONRW's should include, but are not limited to, waters of National and State Parks and wildlife refuges, and waters of exceptional recreational or ecological significance. State implementation procedures should

document waters ineligible for lower water quality.

To identify ONRW's the State Water Quality Agency can obtain assistance from the State Outdoor Recreation Agency. The State Outdoor Recreation Liason Officer maintains a State Outdoor Recreational Plan in coordination with the North Atlantic Regional Office of the National Park Service (U.S. Department of Interior) under the Federal Land and Water Conservation Fund Act. Useful inventories include the list of river segments identified by the National Park Service, in cooperation with the States, as eligible for consideration under the Federal Wild, Scenic and Recreational Rivers Act. Further, several States have identified river segments worthy of protection as State Wild and Scenic Rivers. EPA can assist in this coordination.

The focus of this guidance is on Sec. 131.12(a)(2), the component that requires certain analyses to support lowering water quality in some cases and, therefore, requires the greatest attention in State implementation procedures. This component requires the maintenance and protection of water quality in high quality waters unless the State finds, after full satisfaction of the intergovernmental coordination and public participation provisions of the State's continuing planning process, that allowing lower water quality is necessary to accommodate important economic or social development in the area in which the waters are located. High quality waters are defined as having an existing water quality exceeding levels necessary to support propagation of fish, shellfish, and wildlife and recreation in and on the water. In allowing lower water quality, the state must assure that existing high quality uses will be protected fully.

APPLICATION

The Federal antidegradation policy applies to both point and nonpoint sources of pollution. Any action involving point or nonpoint source pollution which could result in a lowering of water quality in high quality waters is subject to antidegradation implementation. Although the following guidance focuses on application of the anti-

degradation policy to point sources, states should also plan to develop procedures for assessing nonpoint source activities that could lower water quality.

As part of the requirement that high quality waters be maintained and protected, the Federal antidegradation policy stipulates that the States must assure that all cost-effective and reasonable best management practices for nonpoint sources are achieved. This provision makes it the State's responsibility to work towards nonpoint source control.

State Nonpoint Source Assessment Reports should identify waters where additional nonpoint source activities might 1ower water quality and thus be subject to anti-degradation implementation. This information should be included in the State 305(b) Report. State Nonpoint Source Management Programs will prescribe the BMP's and management actions necessary to meet the requirements of antidegradation.

Program actions that are potentially subject to antidegradation policy implementation include, but are not limited to, the following:

Point Sources

- industrial production increase
- municipal growth
- new discharge or source
- reallocation of abandoned load
- relocation of discharge
- revision of wasteload allocation

Nonpoint Sources/Other

- land use changes (e.g. agriculture, siliculture, mining)
- highway construction
- resort development
- urban development
- removal of Best Management Practices
- Sec. 401 certifications
- issuance of Sec. 402 and Sec. 404 permits
- RCRA/CERCLA actions that impact water quality
- Sec.208 and Sec.303 plan approvals
- Resource Management Plan approval.
- Land Management (e.g. forest)
- hydropower development
- diversions/interbasin transfers

For nonpoint source activities that currently require public notification, the

information contained in Task C below must be part of the public notification process. For the other activities that currently do not require public notification, the States should develop a process to ensure that public notification is provided for those activities that could lower water quality. This will ensure that the public is afforded the opportunity to comment on all activities that could 1ower water quality.

It should be noted that some actions affecting NPDES permits (i.e., relaxation of existing permit limitations) may be subject to the antibacksliding rule. Antibacksliding requirements, found at 40 CFR Sec. 122.44(l) of USEPA's NPDES regulations, are separate from implementation of the antidegradation policy. Antibacksliding essentially says that limitations, standards or conditions in a reissued permit must be at least as stringent as the limitations, standards or conditions in the previous permit unless circumstances have changed significantly.

IMPLEMENTATION

This section describes the major tasks that should be included in State anti-degradation implementation procedures to ensure that actions which could result in a lowering of water quality in high quality waters are consistent with the provisions of Section 131.12(a)(2) of the Water Quality Standards regulation. They include the following:

A. Determine if the proposed action would cause a significant lowering of water quality and if lower water quality will protect the existing uses.

B. Demonstrate that lower water quality is necessary to accomodate important economic or social development in the area in which the waters are located.

C. Complete intergovernmental cooperation and public participation.

If a state determines under Task A that the proposed action would not cause a significant lowering of water quality in a high quality water and that lower water quality will protect the existing uses fully, then completion of Task B is not required. If the proposed action would significantly lower water quality, while still protecting the existing uses, then task B involves a demonstration that allowing lower water

quality is necessary to accomodate important economic or social development in the area in which the waters are located. Under no circumstances can water quality be lowered below levels necessary to fully protect the existing uses of a high quality water. Both groups of program actions require intergovermental cooperation and public participation as described in task C.

Implementation of the antidegradation policy assumes that water quality standards have been appropriately set for waterbodies where water quality will be lowered. Where the standards themselves are inappropriate, it will be necessary to review and, if appropriate, revise the standards pursuant to Section 131.20 of the Water Quality Standards regulation. Where water quality improvements result in attainment of the next highest classification criteria, States must revise their standards to reflect the new classification.

Task A

In the strictest sense, any action that could lower water quality in high quality waters requires a determination that lowering water quality is necessary to accommodate important economic or social development. However, to ensure that scarce pollution control resources are used judiciously, the Region will consider that antidegradation requirements have been satisfied when it is demonstrated that there will be no significant lowering of water quality and existing uses will be protected fully.

The definition of "significant" will be left up to the individual States, subject to EPA approval. The State could, for example, base the definition on direct measures such as an absolute or percent change in predicted ambient concentrations or indirect measures such as changes in primary productivity caused by nutrients or changes in diurnal dissolved oxygen fluctuations. The definition should be documented in the State's implementation procedures.

It is expected that the definition would be different for different categories of substances. For example, some chemical pollutants will persist in the environment for a long time, if not indefinitely. Therefore, continued loading of these chemicals is

likely to result in accumulation. The potential for accumulation to deleterious levels is evident, and is the basis for minimizing the discharge of such substances.

The substance specific definitions of "significant" discussed above do not address the possibility of additive or synergistic effects. These effects must be taken into consideration to ensure that such interactions will not inadvertently result in significant toxicity in the receiving waters. The approach or approaches which the State proposes to use should be fully documented and justified in its implementation procedures.

Due consideration must also be given to the possibility that repeated or multiple "insignificant" changes could cumulatively cause significant changes in water quality.

Wasteload allocation results involving simple mass balance calculations or more sophisticated mathematical modelling should be used to determine if there will be a significant lowering of water quality and if lower water quality will protect existing uses fully. The degree of model sophistication should correspond with the expected degree of water quality impact and/or with the sensitivity or resource value of the receiving water. If the results indicate that the proposed action would cause a significant lowering of water quality, while protecting the existing uses fully, then it must be demonstrated that lowering water quality is necessary to accommodate important economic or social development.

The Region recognizes that some waters in each State have special resource values which should be afforded a level of protection beyond that required statewide for high quality waters, but not as stringent as far ONRW's. The States are encouraged to create an intermediate category with an appropriate level of protection. All activities that could lower water quality in these special resources, regardless of the significance of the expected water quality impact, should require a demonstration that lowering water quality is necessary to accommodate important economic or social development.

Task B.

The Federal antidegradation policy requires a demonstration that lowering water quality

is "necessary to accommodate important economic or social development in the area in which the waters are located".

To be eligible to lower water quality, the discharger must first demonstrate to the satisfaction of the State pollution control agency and Region 1 that lowering of water quality is necessary to accommodate:

1. new production by a new discharger; or
2. industrial production which cannot be accommodated by the current treatment facility while maintaining consistent compliance with current effluent limits even though the current facility is appropriate and is optimally maintained and operated; or
3. increased loading to a municipal wastewater treatment plant because of community growth, which cannot be accommodated by the current treatment facility while maintaining consistent compliance with current effluent limits even though the current facility is appropriate and is optimally maintained and operated; or
4. other circumstances deemed analogous to l-3.

Consistent compliance with effluent limits is defined as 99 percent compliance with daily maxima, and 95 percent compliance with monthly averages. If consistent compliance can be maintained, then lower water quality is not "necessary" and is, therefore not permissible. Where a discharger claims that consistent compliance cannot be maintained, it must also be determined that the treatment facility is appropriate and is optimally operated and maintained. Inappropriate facilities or mediocre operation and maintenance are not acceptable justification for lowering water quality.

For new facilities, the demonstration should include an evaluation of alternative sites. Intergovernmental cooperation should be an important part of this evaluation.

After identifying any such increased production or population growth in the area in which the waters are located, the State must make a specific finding that such increased production or growth is necessary for important economic or social development.

The Region recognizes that the definition of “important” development needs to be flexible to accommodate differences in State economic or social circumstances. The definition will be left up to the individual States and should be documented in the States implementation procedures.

Development should be measured against the “baseline” economic and social status, i.e., the current state of economic and social development in the area that would be affected. Local planning agencies should be able to provide the necessary economic information. Importance of development can be demonstrated by showing, for example, expected growth in the following factors:

- area employment,
- direct and indirect income, and/or
- the net community tax base

Intergovernmental cooperation must bean essential element of any determination concerning the importance of economic or social development.

Even if it is determined that lowering water quality is necessary to accommodate important economic or social development, it may not be in the public interest to do so. In some instances, the benefits associated with water quality levels that exceed levels necessary to protect designated uses may outweigh the benefits associated with important economic or social development. State implementation procedures should provide a mechanism whereby the State pollution control agency can override an approval based on the above if there is a compelling environmental reason or public opinion to do so.

Task C

Public participation and intergovernmental cooperation are essential elements of antidegradation policy implementation. Potential participants must explicitly be made aware of antidegradation policy issues and the potential impact of any lowering of water quality. Where the documentation for a permit issuance/reissuance/modification does not provide adequate evidence of State antidegradation policy implementation, the Region may object to the proposed permit.

Any public notice related to potential lowering of water quality should address at least the following topics:

1. statement of the state's antidegradation policy;

2. discussion of the policy's applicability to the proposed action;

3. statement concerning the significance of the expected water quality impact and the effect on existing uses.

4. statement concerning the necessity of allowing lower water quality to accommodate important economic or social development.

5. identification of other appropriate agencies which have been notified of the proposed action including, identification of those agencies which have contributed to the antidegradation policy implementation.

In addition, the public notice should address, or contain explicit reference to the following topics:

1. specific identification of the chemical, physical, and biological pollutants involved and known and suspected environmental effects.

2. description of the current level of water quality;

3. description of the impact that the proposed action will have on water quality, including synergistic effects and results of toxicity tests if appropriate;

4. summary of other actions that have lowered water quality with a determination of cumulative impacts:

5. discussion of existing uses and how lower water quality will protect existing uses fully:

6. demonstration of important economic or social development in the area in which the waters are located (if appropriate).

7. determination that allowing lower water quality is "necessary* to accommodate important economic or social development (if appropriate).

While formal notice of intent to authorize degradation of existing water quality is required only at the time an NPDES permit is public noticed, it is both advisable and prudent to inform interested and affected parties as early in the process as possible.